

HURRICANE MITCH RECONSTRUCTION UPDATE



USAID/Nicaragua Hurricane Mitch Reconstruction Program

<i>(U.S. Millions of Dollars)</i>	<i>\$103.6</i>
<i>Public Health</i>	<i>30.6</i>
<i>Economic Reactivation</i>	<i>53.5</i>
<i>Disaster Mitigation</i>	<i>6.6</i>
<i>Education</i>	<i>4.5</i>
<i>Municipal Infrastructure</i>	<i>2.9</i>
<i>Transparency and Accountability</i>	<i>1.0</i>
<i>Food Aid</i>	<i>4.5</i>



Departments of Nicaragua
Affected by Hurricane Mitch

U.S. GOVERNMENT FUNDS EMERGENCY PLAN TO HELP SAVE NICARAGUAN PINE FORESTS

Jalapa, Nicaragua—Like something out of an environmentalist's worst nightmare, the mountains here are covered with fallen tree trunks, strewn about like pick-up sticks. However, what appears to be a chain-saw massacre is actually the salvation of this forest.

The real threat to Nicaragua's 500,327 hectares of pine forest is a tiny demon measuring only two to four millimeters in length—*Dendroctonus frontalis* Zimm, the Southern Pine Beetle. The Southern Pine Beetle is the most destructive insect pest to pine trees, second only to forest fires in causing major economic losses of pine forests in Central America.

A serious outbreak of the Southern Pine Beetle has already destroyed 5,000 hectares of pine



USAID is providing \$153,000 in emergency funds to combat the Southern Pine Beetle, threatening Nicaragua's pine forests.

forest in the municipality of Jalapa, located about 200 miles north of Managua in the department of Nueva Segovia. Another 5,000 hectares are imminently threatened as the beetle infestation advances at the alarming rate of eight hectares a day. If left unchecked, Nicaragua would lose more than 10,000 hectares of pine forest, valued up to \$30 million, by the end of this year.

The U.S. government immediately responded to an appeal for help from Nicaragua's Ministry of Agriculture and Forestry (MAGFOR), allocating emergency funding and resources to halt the beetles deadly path. USAID is providing \$153,000 in funds through World Relief, a private voluntary organization familiar with the affected region, to combat the

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To contain the pine beetle outbreak, experts provided by the USDA recommended cutting an eight kilometer long, 200 meter wide buffer strip of infested trees and trees that are threatened.

U.S. GOVERNMENT FUNDS EMERGENCY PLAN...

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southern pine beetle. Along with the funding, the United States Department of Agriculture (USDA) has already deployed forestry and pine beetle experts to the site to give technical assistance to Nicaragua's National Forestry Institution (INAFOR).

Based on experience in controlling pine beetle epidemics in the United States, Honduras and Belize, the best containment plan consists in cutting down an eight kilometer long, 200 meter wide swathe of pine trees. This buffer strip, which includes trees recently infested and trees in danger of infestation, will serve as a barrier against further migration of the pest.

"Remove the trees, you take away the food source and the beetle dies," said James Denny Ward, an advisor on pest management and forest health from the USDA forest service.

Known as the "cut and leave" technique, the buffer strip is completed in about a week leaving the trunks in the area for salvage. Then, forestry experts watch for outbreaks on the other side of the buffer strip to immediately control them with other cuttings.

Pine beetle outbreaks tend to be cyclical in occurrence. Nicaragua experienced episodes in 1964-66, 1975-77, 1984-85 y 1992-93. While weather conditions, such as droughts or storms, are factors contributing to



The aggressive southern pine beetle feeds on pine bark, making winding S-shaped passages in the inner bark that cause the tree's death.

the development of an outbreak, forestry management is the key factor in controlling infestations.

"The area will have its own natural regeneration but the main way to control future outbreaks is through healthy

forest management," said Ward.

Along with the natural regeneration, the USAID emergency funding will also be used for a reforestation plan and to train local forestry technicians and owners of forested land in preventing future pine beetle epidemics through proper management.

With this investment of \$153,000, the U.S. government is not only saving millions of dollars worth of pines, it is also helping to protect important watersheds, and the flora and fauna in Nicaragua that are dependent on the pine forests existence.



James Denny Ward and Carlos Suarez from the USDA explain to Nicaraguan reporters how the USAID-funded emergency plan will help save Nicaragua's pine forests.

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